

Design Consultants, Inc.

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Somerville, MA 02145
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MEMORANDUM

DCI JOB NO. 2006-029

TO: Terry Smith, Traffic Eng.
Somerville Traffic and
Parking Department

FROM: David R. Ivany, PE, PTOE
Senior Transportation
Engineer

SUBJECT: Traffic & Parking Assessment
143 Cedar Street

DATE: November 28, 2011



This memorandum assesses the traffic and parking impact associated with the proposed development of 10 residential condominium units at 143 Cedar Street in Somerville. Proposed access will be via a new driveway onto Alpine Street. The existing commercial site is currently vacant, formerly occupied by commercial/industrial uses. The proposed site plan dated 07/20/11 and building plans by Khalsa Design Inc. dated 07/13/11 are included in the attached Appendix.

Summary Conclusion

Based on an assessment of the existing and proposed traffic condition that is presented on the following pages herein; it can be concluded that the low traffic volumes generated by the residential development will have little measurable impact on the safe and efficient flow of traffic in the vicinity. The provision of 18 parking spaces on site exceeds the city ordinance and is expected to well accommodate the anticipated demand for resident and visitor use. Overall, the proposed residential development plan provides a net improvement to the traffic and parking condition for the area when compared to the former commercial site use.

Surrounding Roadway Network

Cedar Street is a two-way north-south collector street extending from Broadway to Highland Avenue, a distance of about ½ mile. South of Highland Avenue, Cedar Street continues as a one-way southbound local/collector to Elm Street. The street width along Cedar Street in the site vicinity is about 27 feet, providing for 6-foot wide concrete sidewalks on both sides. Resident permit parking is allowed on the east side only. The posted speed limit is 25 mph.

Alpine Street is a local east-west residential street that is one-way eastbound from Cedar Street to Princeton Street, a distance of about 750 feet. Alpine Street continues as a two-way local street between Princeton Street and Lowell Street. The street width along the site frontage is 20 feet allowing for residential permit parking on the south side only. Concrete sidewalks are provided on both sides. Stop sign control exists at the intersection with Lowell Street.



View to the north along Cedar Street approaching Alpine Street
The pedestrian/bike crossing for the Somerville Community
Path can be seen in the background.

Existing Site Use

The existing commercial use with frontage on both Cedar Street and Alpine Street is currently vacant. The most recent business activities were Alspar Construction, ABC Decorating and American Table Pad occupying the various office/garage spaces on the site.



View to the east along Alpine Street.

The proposed new residential access driveway will be located where the garage (gray double doors) seen on right now stands.

Proposed Site Access (Refer to Site Plan)

The main access to the site will be via a proposed 18 foot-wide driveway (that will reduce the current driveway opening), connecting to 18 parking spaces on site. This includes 8 tandem stalls for residents and 2 single resident/visitor stalls. The existing curb cuts onto Cedar Street will be closed, allowing for proposed new sidewalk and site landscaping.

Site Trip Generation

DCI has estimated vehicle trips that will be generated by the proposed residential development by utilizing trip rates presented in the Institute of Transportation Engineers (ITE) Trip Generator Manual – 8th Edition. (see attached Appendix for ITE source data)

10 Units Residential Condominium (Land use 230)

<u>Daily</u>	<u>Peak Hour (AM/PM)</u>
In – 29	In – 1/3
Out – 29	Out – 3/2
Total – 58	Total – 4/5

As can be seen from the proposed site trip generation, the low volumes generated by the proposed development will have little, if any, measurable impacts on traffic flows on the surrounding streets. Of the estimated 58 daily trips, 50% or 29 trips will enter the site via Cedar Street onto Alpine Street or similarly exit the site via Alpine Street east to Lowell Street. When considering the afternoon peak hour for the site driveway, this amounts to about 5 total vehicle trips (one vehicle arriving or departing every 12 minutes).

It is anticipated that the overall vehicle site trips as well as parking demand at the project site will be reduced somewhat due to its proximity to the services provided at nearby Davis Square and the MBTA Red Line. This is reflective of travel behavior in compact urban environments where a higher percentage of residents will utilize travel modes other than private automobile for their daily trips. Residents may choose to conveniently walk or bicycle to Davis Square and the Red Line MBTA station, utilizing the nearby 0.8 mile long Somerville Community Path. Convenient MBTA bus feeder service (#88 and 90) is available along Highland Avenue that also provides connections to Sullivan Square (Orange Line) in Boston and Lechmere Station (Green Line) in Cambridge. Zip cars (3) are also available in the immediate site vicinity (lot off Cedar Street at the Community Path) as well as at the Highland Street intersection (2).

Proposed On-Site Parking

The current proposed development plan for 10 residential units (8 two bedroom and 2 one bedroom) provides for 18 parking spaces on site, exceeding the City of Somerville Ordinance requirement of 17 spaces. Due to site constraints, 16 spaces provided are tandem stalls that would be assigned for the 8 two bedroom units. This would leave 2 spaces remaining for the 2 one bedroom units and visitor use.

The proposed on-site parking can be justified for several reasons as follows:

- ***Proposed site access/circulation allows for safe and efficient operations***

The proposed site plan closes all existing driveways onto Cedar Street. This results in an overall safer traffic environment by eliminating potential conflicts with higher traffic volumes and vehicle speeds along Cedar Street.

All site access will be via the two-way driveway onto Alpine Street. The 20-foot aisle width provided in front of the rear garage housing the 8 tandem spaces will allow for easy entry-egress. This results in vehicle movements to and from the garage that efficiently turn around on-site, thus avoiding any backing movements onto Alpine Street.

The two spaces adjacent to the driveway between the garage and Alpine Street will also have sufficient width to allow vehicles to turn around on site (via three-point turns) and avoid backing movements onto Alpine Street. It is anticipated that some backing movements may occur at the stall closest to Alpine Street due to the convenience of backing onto the nearby street. This potential traffic movement would not be considered detrimental to overall safety due to the local character of Alpine Street where backing movements from local driveways currently prevail. In this environment, drivers are

generally aware of the potential for back-in movements and are more attentive and prepared to stop as they drive at low speeds through the neighborhood. This also applies to trash pick-up for the site that will require the garbage truck to typically back into the driveway from Alpine Street.

- ***Parking spaces provided will match or exceed anticipated demand***

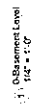
Available census data for the city of Somerville has indicated that over 20% of households do not own a car (22.73% per CarFree Census). As previously identified in this report, the site's proximity to Davis Square and the MBTA Red Line Station combined with convenient Zip Car locations would indicate that residents at 143 Cedar Street will match or potentially exceed this level of no-car ownership.

Overall parking demand for the 8 tandem spaces and 2 single spaces is therefore expected be less than provided. The likelihood is very high that after full occupancy and allocation of parking to the units, one of the two single spaces on site will be permanently available for visitor parking use. Visitors to the site will also have access to available tandem spaces as appropriate (where only one parking space is used by the unit), as well as additional on-street spaces that will be available along the Cedar Street frontage. (refer to description that follows)

- ***Proposed site access will create additional resident permit parking space along Cedar Street***

The proposed development plan will close all existing curb cuts along the Cedar Street frontage, creating 3 additional on-street spaces for resident permit parking. The proposed site frontage will allow on-street parking for up to 4 vehicles (assuming 25 feet/vehicle) as compared to the existing condition that only provides space for a single vehicle.

APPENDIX



1st Floor Level
1/4" = 1'-0"

PROJECT NAME
**CEDAR STREET
RESIDENCES**

PROJECT ADDRESS
143 Cedar Street
Somerville, MA

CLIENT
Alder Realty Trust P.O.
Box 207 Somerville
MA 02143

ARCHITECT
KHALSA DESIGN INC.

17 WALDO STREET SUITE 400
CAMBRIDGE, MA 02142
TEL: 617-552-4444 FAX: 617-552-4444

CONSULTANTS:

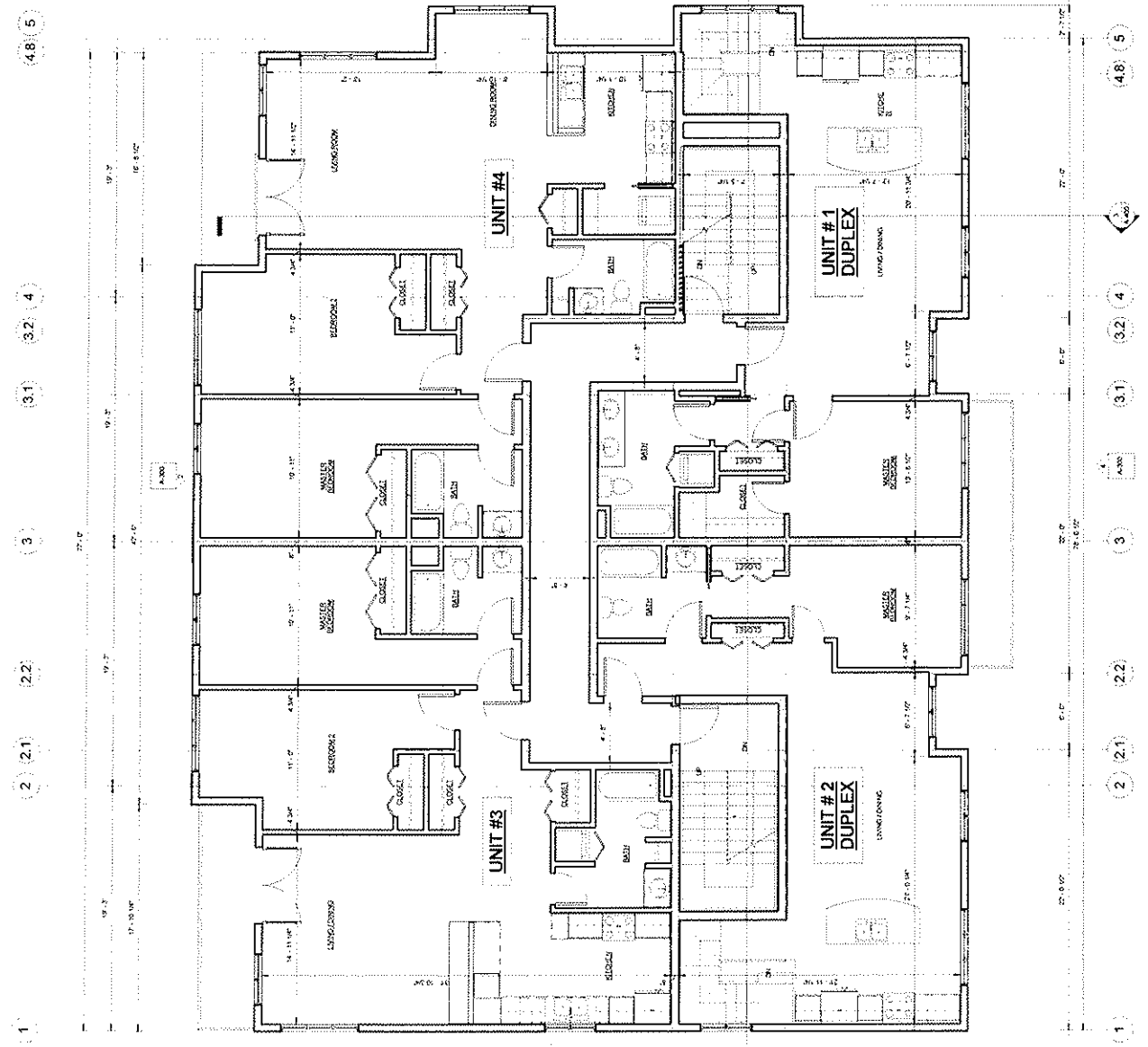


REGISTRATION

REVISIONS	No.	Description	Date
00001	1	Initial	01/11/11
00002	2	Revised	01/11/11
00003	3	Revised	01/11/11
00004	4	Revised	01/11/11
00005	5	Revised	01/11/11
00006	6	Revised	01/11/11
00007	7	Revised	01/11/11
00008	8	Revised	01/11/11
00009	9	Revised	01/11/11
00010	10	Revised	01/11/11

2nd FLOOR PLAN

A-102
CEDAR STREET RESIDENCES



2nd Floor Level
110' x 110'



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Box 207 Somerville
MA 02143

ARCHITECT
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17 WALDO STREET SUITE 400
CAMBRIDGE, MA 02142
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CONSULTANTS:

REGISTRATION

Project Number
000001
Drawing No.
001
Scale
1/4" = 1'-0"

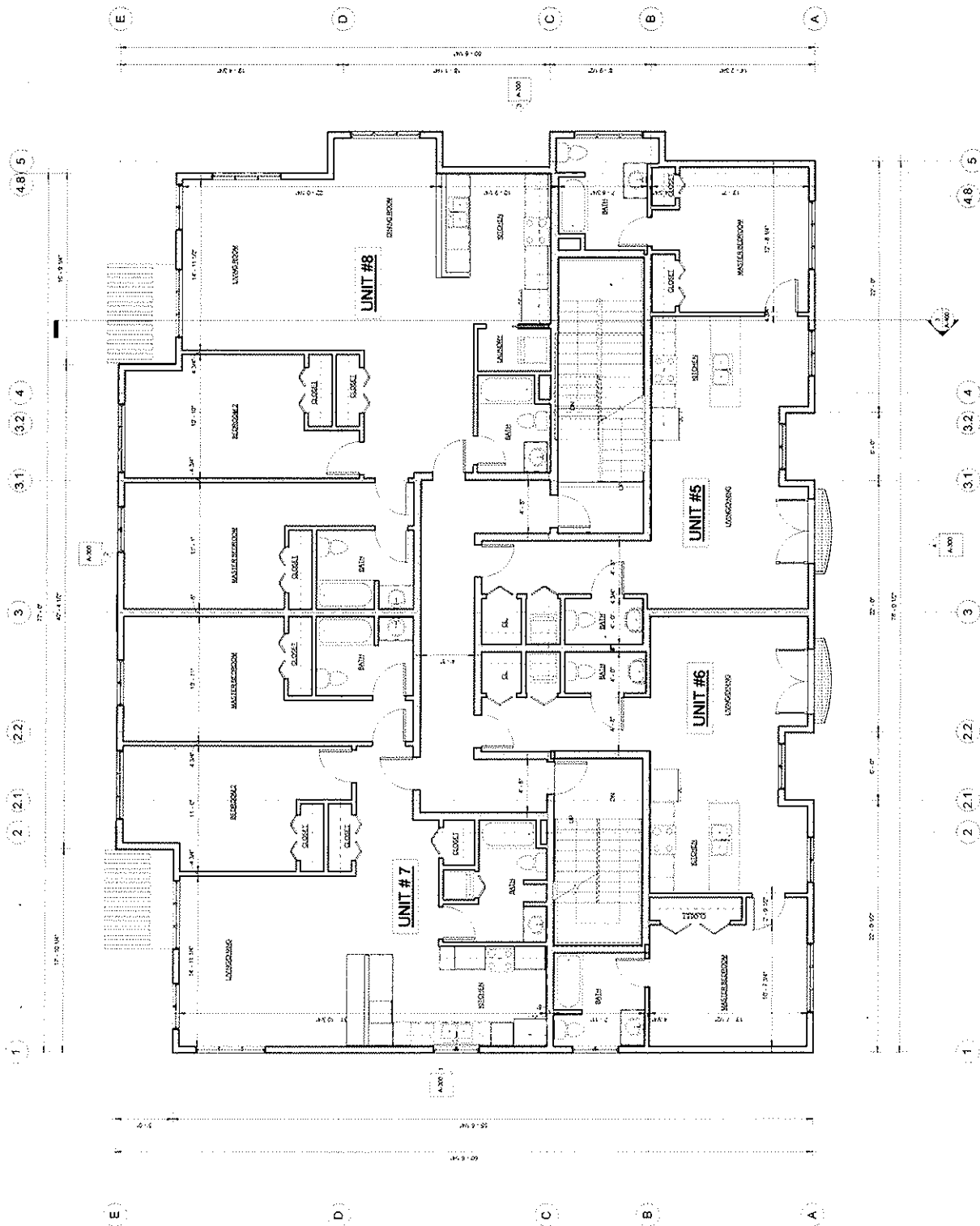
REVISIONS

No.	Description	Date

3rd FLOOR PLAN

A-103

CEDAR STREET RESIDENCES



3rd Floor Level
1/4" = 1'-0"

Residential Condominium/Townhouse (230)

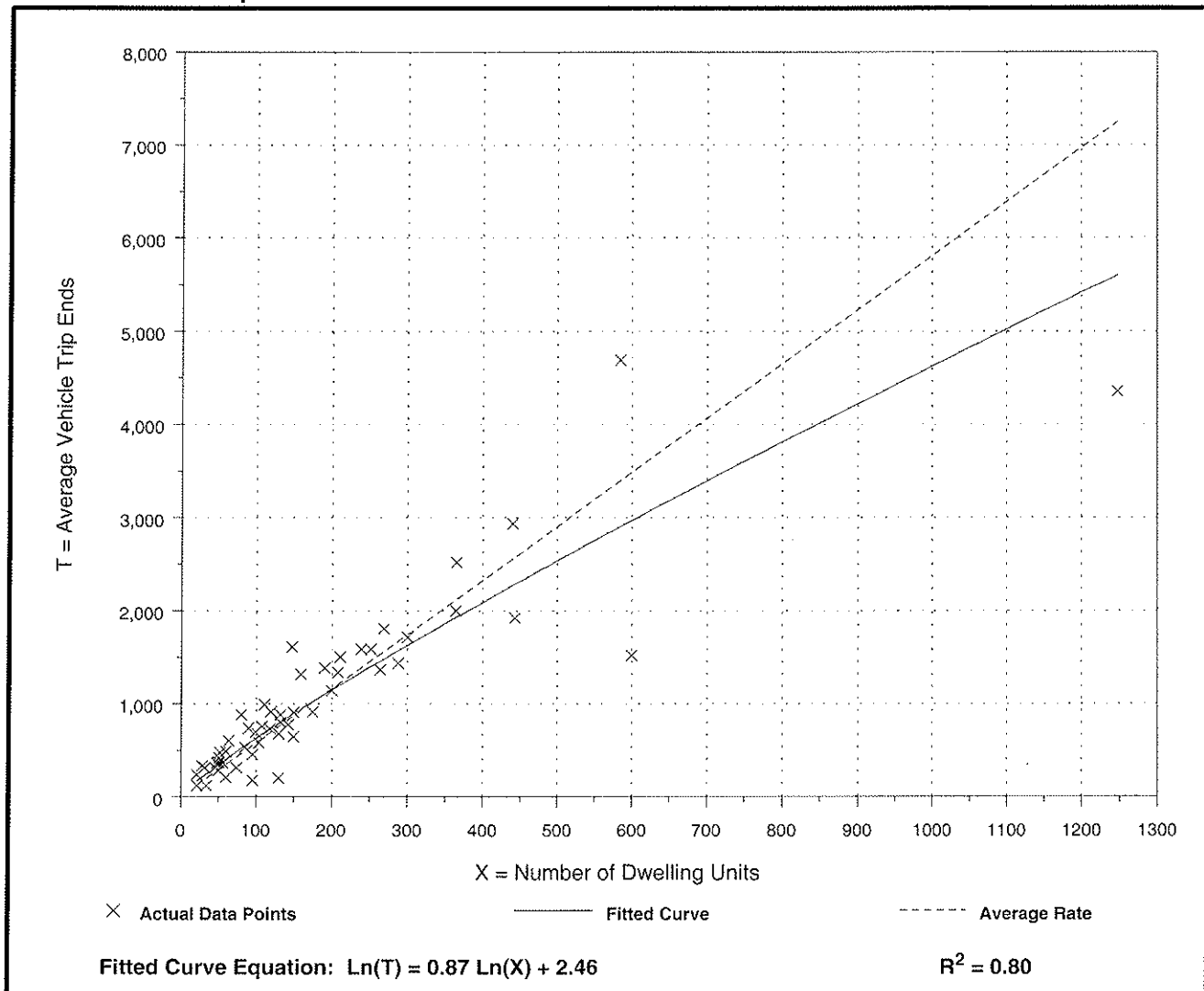
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Number of Studies: 56
Avg. Number of Dwelling Units: 179
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.81	1.53 - 11.79	3.11

Data Plot and Equation



Residential Condominium/Townhouse (230)

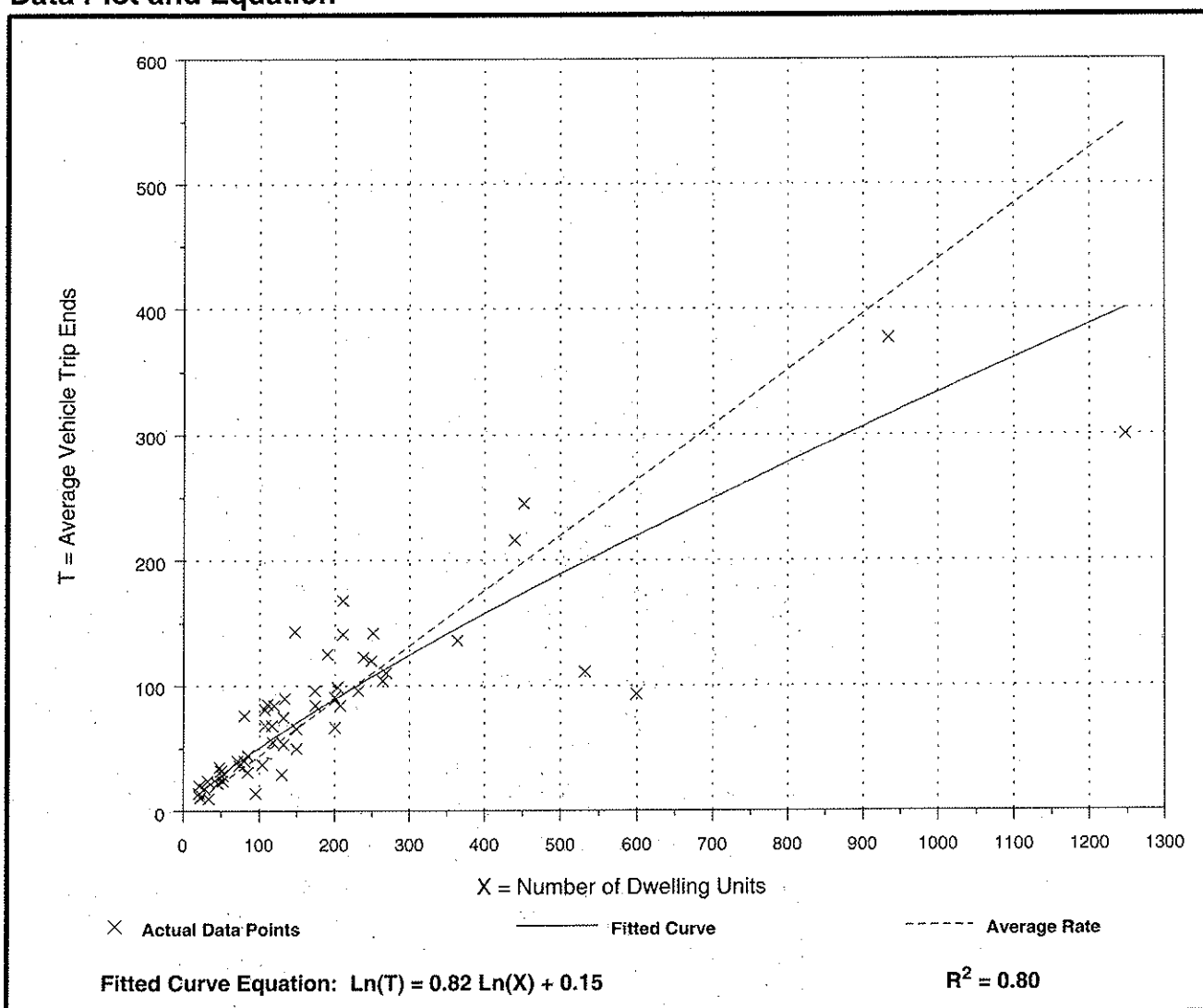
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
A.M. Peak Hour of Generator

Number of Studies: 54
 Avg. Number of Dwelling Units: 196
 Directional Distribution: 19% entering, 81% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 0.97	0.68

Data Plot and Equation



Residential Condominium/Townhouse (230)

Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
P.M. Peak Hour of Generator

Number of Studies: 52
Avg. Number of Dwelling Units: 199
Directional Distribution: 64% entering, 36% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.18 - 1.24	0.75

Data Plot and Equation

